Preliminary Report on White Pine Harvest Adjacent to Capwell Mill Pond in the Big River Management Area

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I am very pleased with the quality of harvesting in the Big River Management Area (BRMA). The logging prescription by RI Dept. of Environmental Management (DEM) consultant Jay Aron was well planned and the logging operation itself has been carried out diligently and carefully by Stephen Hooker. The result of the collaboration between consultant and logger is a harvest that has exceeded my expectations and has addressed most of my concerns.

I had several concerns about timber harvest in the BRMA.

A. Degradation of wetlands

- Water quality in pond
- Soil erosion with subsequent sedimentation in stream by bridge and in maple swamp to the south of the logged area

B. Nutrient leaching due to:

- Cutting that might be too intensive
- Decomposition of brush left after harvest

C. Damage to understory, in particular, to saplings

D. Soil quality degradation in the staging area

E. Adverse effect on wildlife

F. Damage to the historic cemetery by the pond

The following is an assessment of the effects of logging on environmental quality. The operation is not yet completed and I will submit my final opinion on the effect of logging on environmental quality after the elements of the contract have been met by the logger.

A. Wetland degradation

- A buffer has been left between the pond and the maple swamp and the logging area. The buffer is sufficiently wide to effectively intercept sediments and nutrients in overland flow originating in the logged areas.
- The main trail from the bridge to the stone wall in the east of the area has certainly been impacted negatively by operating a skidder. However, much of that damage was unavoidable. This has led to tire ruts and skid marks where trunks have been dragged. There is no sign of erosion rills or gullies caused by the concentrated flow of water along the ruts. Nevertheless, some sediment is undoubtedly flowing downhill towards the stream. Hay bails were used to reduce the impact on the stream.

B. Nutrient leaching

- The BRMA is a water supply area and pollution of ground water by products of decomposition, such as mineral nitrogen, may degrade water quality. It has been shown in research watersheds that when logging is selective and when brush is removed from the site, the risk for nitrate leaching is low. The logging operation has been managed well to minimize the risk of nitrate leaching. We will monitor the mineral nitrogen content of the soil for the next year and furnish the Board with a report of the monitoring results.

C. Damage to understory

- In the logged patches, there has been unavoidable damage to the understory. However, I am satisfied that the logger has taken great care to contain the damage. I was impressed by the density of undamaged saplings of white pine and several deciduous species in and around the cut patches. I am satisfied that vegetation in the patches will regenerate.

D. Soil quality degradation in the staging area.

- Soil in the staging area has been severely compacted. This was expected and not avoidable. The logger is obliged to reseed the area with a conservation mix after he completes cutting. This will reduce the chance of erosion from the site.

E. Effects on wildlife

- The logger is to build animal shelters from brush.
- The opening of the forest canopy and the patchiness of forest cover created will probably attract different bird species. The additional productivity of understory plants in the logged area, due to additional nutrient supplied from decomposing brush and additional light, may benefit other non-avian species.

F. Damage to Cemetery

- The logger took care felling and removing trees in the area around the cemetery. I have not detected any damage to the cemetery or the stone wall around it.

I have been very pleased with the quality of the logging operation. It has been conducted well and potential negative impacts have been avoided or minimized. Because the operation is not finished yet, I would like these comments to be regarded as preliminary. A URI coastal fellow (undergraduate in a service learning program) has been appointed to work with me to monitor the water quality in the pond and the nutrient levels in the soil. We shall keep the Board informed about the results of our tests.

There is one more point that I ask the Board to consider. The original contract calls for the restoration of the footbridge across the stream. Presently a wider bridge is in place. This bridge allows access of heavy equipment to the area south of Capwell Mill Pond. I recommend this bridge remain in place to allow better access for fire fighting. I believe that with an appropriate barrier the risk of dumping could be reduced. In addition, the area is used by a daily stream of mountain bikers and hikers whose presence would deter any dumping in the area.

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The Capwell Mill Pond in the BRMA

White pine stand before cutting (Feb 2000)

White pine stand after cutting (Feb 2000)

Coastal Fellow collecting samples for soil quality